

CLAIMS:

1. (*Currently Amended*) A liquid crystal display comprising:

a panel substantially tessellated by a subpixel repeating group comprising differently colored and individually addressable subpixels and having an even number of individually addressable subpixels including a first colored subpixel, a second colored subpixel, ~~and a third colored subpixel~~ and a fourth colored subpixel, which first through fourth colored subpixels are consecutively arranged in a row, wherein the first, second and fourth subpixels have different colors from each other while the third colored subpixel has a same color as that of the first colored subpixel, ~~in a row~~, said subpixel repeating group ~~further comprising~~ defining a first column of first corresponding and same colored subpixels, where the color of said ~~first same~~ same colored subpixels of the first column is one to which the human visual system has lower luminance change sensitivity than to other colors of other colored ones of the subpixels in the subpixel repeating group; and

a driver circuit sending to the panel, image signals representing image data;

wherein said driver circuit uses a substantially periodic dot inversion polarity scheme at one or more of the columns of first colored subpixels such that potential image degradation introduced by the periodic dot inversion polarity scheme is localized on said one or more of the columns of first colored subpixels.

2. (*Currently Amended*) The liquid crystal display of Claim 1 wherein the same color of the defined first column is a blue color ~~first colored subpixels are blue colored subpixels~~.

3. (*Currently Amended*) The liquid crystal display of Claim 1 wherein said subpixel repeating group substantially ~~comprises~~ defines a checkerboard of red and green subpixels interspersed with two columns of blue subpixels.

4. (*Currently Amended*) The liquid crystal display of Claim 3 wherein for each said subpixel repeating group said two columns of blue subpixels share a same column data driver.

5. (*Previously Presented*) The liquid crystal display of Claim 1, wherein a correction signal is applied to one or more of the subpixels at which the violation of the periodic dot inversion polarity scheme occurs and the applied a correction signal counters a loss of luminance caused by the violation.

6-7. (*Canceled*)

8. (*Currently Amended*) A method of providing a substantially periodic dot inversion polarity scheme in a liquid crystal display having a panel that is substantially tessellated by a primitive subpixel repeating group comprising differently colored and individually addressable subpixels disposed to define rows and columns within the primitive subpixel repeating group where each row has ~~and having~~ an even number of individually addressable subpixels including a first colored subpixel, a second colored subpixel, ~~and a third colored subpixel and a fourth colored subpixel~~, which first through fourth colored subpixels are consecutively arranged in a row of the primitive subpixel repeating group, wherein the first, second and fourth subpixels have different colors from each other while the third colored subpixel has a same color as that of the first colored subpixel, in a row, said subpixel repeating group further defining as one of its columns, a first column of first corresponding and same ~~comprising a column of first~~ colored subpixels where the color of said ~~first same~~ colored subpixels of the first column is one to which the human visual system has lower luminance change sensitivity than to other colors of other colored ones of the subpixels in the subpixel repeating group, the method comprising:

providing driver signals to the subpixels in the panel, wherein said providing of the driver signals uses a substantially periodic dot inversion polarity scheme at one or more of the columns of first colored subpixels such that potential image degradation introduced by the periodic dot inversion polarity scheme is localized on the column of first colored subpixels.

9. (*Previously Presented*) The method of Claim 8, wherein the column of first colored subpixels is a column of blue subpixels.

**10. (Previously Presented)** The method of Claim 8, wherein the subpixel repeating group is characterized by a checkerboard of red and green subpixels interspersed with two columns of blue subpixels.

**11. (Previously Presented)** The method of Claim 10, wherein for each subpixel repeating group the providing driver signals includes providing of scheme violating signals to the two columns of blue subpixels from a same column driver.

**12. (Previously Presented)** The method of Claim 8, further comprising: providing correction signals to one or more subpixels in the group of subpixels at which the violation of the periodic dot inversion polarity scheme occurs, where the provided correction signals counter loss of luminance caused by the violation .

**13. (Currently Amended)** A method of providing a substantially periodic dot inversion polarity scheme in a liquid crystal display having a panel that is substantially tessellated by a primitive subpixel repeating group comprising differently colored and individually addressable subpixels disposed to define rows and columns within the primitive subpixel repeating group where each row has ~~and having~~ an even number of individually addressable subpixels including a first colored subpixel, a second colored subpixel, ~~and a~~ third colored subpixel and a fourth colored subpixel, which first through fourth colored subpixels are consecutively arranged in a row of the primitive subpixel repeating group, wherein the first, second and fourth subpixels have different colors from each other while the third colored subpixel has a same color as that of the first colored subpixel, in a row, said subpixel repeating group further defining as one of its columns, a first column of first corresponding and same colored ~~comprising at least one column of~~ blue subpixels; and the method comprising:

providing signals for image data having a substantially periodic dot inversion polarity scheme to the panel with use of a driver circuit outputting at least two phases such that it primarily impacts the at least one column of blue subpixels.

**14. (Original)** The method of claim 13, further comprising providing a correction signal to one or more subpixels.

**15. (Currently Amended)** A liquid crystal display, comprising:  
a display panel including a plurality of subpixels arranged to define [[ in ]] a primitive subpixel repeating group having rows and columns; each row of said subpixel repeating group having comprising an even number of subpixels including a first colored subpixel, a second colored subpixel, ~~and~~ a third colored subpixel and a fourth colored subpixel, which first through fourth colored subpixels are consecutively arranged in a row of the primitive subpixel repeating group, wherein the first, second and fourth subpixels have different colors from each other, in a row, and where the primitive subpixel repeating group defines as one of its columns, including a column of dark colored subpixels; and  
means for providing driver signals to the subpixels in the display panel to send image data having a dot inversion polarity scheme such that image degradation introduced by the driver signals is localized on the column of dark colored subpixels.

**16. (Original)** The liquid crystal display of Claim 15, wherein the column of dark colored subpixels is a column of blue subpixels.

**17. (Currently Amended)** The liquid crystal display of Claim 15, wherein said subpixel repeating group ~~comprises~~ defines a checkerboard of red and green subpixels interspersed with two columns of blue subpixels.

**18. (Previously Presented)** The liquid crystal display of Claim 17, wherein said means for providing driver signals provides signals to the two columns of blue subpixels from a same column driver.

**19. (Original)** The liquid crystal display of Claim 15, further comprising:  
means for providing correction signals to one or more subpixels in the group of subpixels.

**20. (Currently Amended)** A liquid crystal display, comprising:

display means including a plurality of subpixels arranged in accordance with a panel tessellating subpixel repeating group, the subpixel repeating group being characterized by an even number of subpixels including a first colored subpixel, a second colored subpixel, ~~and~~ a third colored subpixel and a fourth colored subpixel, which first through fourth colored subpixels are consecutively arranged in a row of the subpixel repeating group, wherein the first, second and fourth subpixels have different colors from each other while the third colored subpixel has a same color as that of the first colored subpixel, in a row and wherein the subpixel repeating group further defines including at least one column of blue subpixels; and

driving means for providing signals for image data having a dot inversion polarity scheme to the display means; said driving means having at least two phases selected such that potential image degradation introduced by the dot inversion polarity scheme is placed substantially upon the at least one column of blue subpixels.

**21. (Previously Presented)** The liquid crystal display of Claim 20, further comprising:

means for providing a correction signal to one or more subpixels.

**22-24. (Canceled)**

**25. (Previously Presented)** The method of Claim 13, wherein the said use of a driver circuit comprises providing a plurality of two-phase driver chips for driving respective bounded sections of the display ; and wherein phases of each provided driver chip are selected such that parasitic effects placed upon imagery of any of the subpixels driven by said phased signals are placed substantially upon subpixels disposed in columns positioned at a boundary of the bounded display sections respectively driven by said driver chips.

**26. (Previously Presented)** The liquid crystal display of Claim 20, wherein said driving means includes a plurality of two-phase driver chips each for providing signals for the image data having the polarity scheme to respective bounded sections of the display means; the phases of each driver chip being selected such that ~~any~~ parasitic effects placed upon imagery of any of the subpixels driven by said signals are placed substantially upon blue subpixels disposed in columns positioned at a boundary of the bounded display sections respectively driven by said driver chips.

**27. (Canceled)**

**28. (Previously Presented)** The liquid crystal display of Claim 1 wherein said driver circuit sends signals indicating image data having a polarity scheme to the panel such that at least two adjacent subpixels in a row have the same polarity.

**29. (Previously Presented)** The liquid crystal display of Claim 15 wherein said means for providing driver signals includes a plurality of two-phase driver chips for sending said driver signals to the display panel; the phases of each driver chip being selected such that scheme violations introduced by said driver signals are placed substantially upon blue subpixels disposed in columns positioned at a boundary between said driver chips.

**30. (Previously Presented)** The liquid crystal display of Claim 1, wherein the image degradation is caused by same-color subpixels of same polarity occurring successively one after the next .

**31. (Previously Presented)** The liquid crystal display of Claim 13, wherein the violation tends to cause image degradation due to parasitic effects of parasitic capacitances present in the panel.

**32. (Previously Presented)** A liquid crystal display comprising:

a panel organized as rows and columns of subpixels, the panel being substantially tessellated by a primitive subpixel repeating group comprising differently colored and individually addressable subpixels, the primitive subpixel repeating group being a smallest chooseable repeating group among possible repeating groups substantially tessellating the panel and the said primitive repeating group having an even number of subpixels where at least two of them are individually addressable subpixels and an even number of columns, said primitive repeating group including in each row thereof, a first colored subpixel, a second colored subpixel and a third colored subpixel, which have different colors from each other, said primitive subpixel repeating group being tessellated in a staggered manner over said panel so as to thereby define both multi-colored columns and spaced apart uni-colored columns, the uni-colored columns each consisting of subpixels of just one of said first through third different colors, where the color of said first colored subpixels is one to which the human visual system has lower luminance change sensitivity than to other colors of other colored ones of the subpixels in the subpixel repeating group; and

a driver circuit sending to the panel, image signals representing image data;

wherein said driver circuit uses a multi-row inversion polarity scheme that uses a same polarity start of inversion within groups of adjacent rows but nonetheless provides dot inversion in the columnar direction as between adjacent rows or as between one group of the adjacent rows and the next group and which further provides subpixel-to-subpixel dot inversion in the row direction substantially across each row but sporadically violates the in-row dot inversion polarity scheme in localized areas of the panel, where the localized areas of violation each includes one of the first colored subpixels such that potential image degradation introduced by the sporadic violation of the in-row dot inversion polarity scheme is localized to be lessened by said lower sensitivity to change of luminance of the first colored subpixels.

**33. (Previously Presented)** A method used with a liquid crystal display having a panel organized as rows and columns of subpixels, the method providing a substantially periodic dot inversion polarity scheme wherein a same polarity start of inversion occurs within groups of adjacent rows but nonetheless provides dot inversion in the columnar direction as between adjacent rows or as between one group of the adjacent rows and the next group and which substantially periodic dot inversion polarity scheme further provides subpixel-to-subpixel dot inversion in the row direction substantially across each row, wherein the panel is substantially tessellated by a primitive subpixel repeating group, which primitive subpixel repeating group is a smallest chooseable repeating group among possible repeating groups substantially tessellating the panel, and which primitive subpixel repeating group has an even number total of differently colored subpixels among which at least differently colored ones are individually addressable, the differently colored subpixels within a row of the primitive subpixel repeating group including a first colored subpixel, a second colored subpixel and a third colored subpixel of respective different colors from each other, said primitive subpixel repeating group being tessellated in a staggered manner over said panel so as to thereby define both multi-colored columns and spaced apart uni-colored columns, the uni-colored columns each consisting of subpixels of just the first colored subpixels where the color of said first colored subpixels is one to which the human visual system has lower luminance change sensitivity than to other colors of other colored ones of the subpixels in the primitive subpixel repeating group,

the method comprising:

providing driver signals to the subpixels in the panel, wherein said providing of the driver signals causes sporadic violation subpixel-to-subpixel dot inversion in the row direction, but where the sporadic violations are localized at one or more of the columns of first colored subpixels such that potential image degradation introduced by the sporadic violation subpixel-to-subpixel dot inversion in the row direction is lessened due to the lower sensitivity to change of luminance of the visual system for the column of first colored subpixels.

**34. (Previously Presented)** A method of providing a substantially periodic dot inversion polarity scheme in a liquid crystal display having a panel that is substantially



tessellated by a primitive subpixel repeating group, which primitive subpixel repeating group is a smallest chooseable repeating group among possible repeating groups substantially tessellating the panel, and which primitive subpixel repeating group has an even number total of differently colored subpixels wherein a row of the primitive subpixel repeating group contains a first colored subpixel, a second colored subpixel and a third colored subpixel, which have different colors from each other, said primitive subpixel repeating group being tessellated so as to form at least one column of just blue subpixels on the panel; and the method comprising:

providing signals for image data having a substantially periodic dot inversion polarity scheme to the panel which creates a sporadically violated subpixel-to-subpixel dot inversion in the row direction, but where the sporadic violations are localized to the vicinity of the at least one column of just blue subpixels.

**35. (Previously Presented)** A liquid crystal display, comprising:

a display panel including a plurality of subpixels arranged as a staggered tessellation by a primitive subpixel repeating group; said primitive subpixel repeating group comprising an even number of subpixels in a row direction thereof, including a first colored subpixel, a second colored subpixel and a third colored subpixel, which have different colors from each other, and including a column of only dark colored subpixels; and

means for providing driver signals to the subpixels in the display panel to send image data having a dot inversion polarity scheme which creates a sporadically violated subpixel-to-subpixel dot inversion in the row direction, but where the sporadic violations are localized to the vicinities of the dark colored subpixels.

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